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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OFFICEACTIONS@FDML.COM

Office Action Summary	Application No.	Applicant(s)	
	10/629,403	LIU ET AL.	
	Examiner	Art Unit	
	JASMINE STOKELY-COLLINS	2423	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/8/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,16-32,34,35 and 37-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,16-32,34,35 and 37-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 10, 18, 24, 37, and 46 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claims 1, 37, and 46, applicant argues on page 12 that the cited references do not disclose or render obvious transferring the information from a first remote device to a second remote device; the examiner agrees. Ayatsuka teaches a user may remotely control a device by viewing it though a camera. In one example, a user may "hyper-drag" a representation of a transparency/slide either from a computer to a projector or vice versa (i.e. from the projector to the computer) as long as the computer has an image of the projector. Ayatsuka also teaches that this exchange of information may happen between a computer and 2 projectors if the computer is linked to both projectors via a gaze-link (i.e. a camera view). Therefore, a user may drag a representation of a transparency/slide from projector A to projector B because the two are connected through a 2-way (i.e. information can be sent or retrieved) path between the computer and each projector (transferring the information from the first remote physical device to the second remote physical device). Moreover, the exchange of information is preceded by a determination as to whether the target device can receive transparencies (querying the second remote physical device to determine if it can receive the information from the first remote physical device).

Regarding claims 10, 18 and 24, applicant argues on page 14 that the references of record do not disclose an annotation being displayed on a physical device at the location shown in the live video image, such that the annotation can be viewed at the location. The examiner agrees; However, US Patent Application Publication 2004/0236830 to Nelson et al teaches participants of a conference may use annotation software installed on an electronic device to annotate a live view of a physical device (figure 8 display screen 216). The annotation will appear to other conference participants and will be projected onto display 216 (pg. 8 sect. 0067 and pg.9 sect 0068). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote annotation capabilities disclosed in Nelson in the videoconferencing system taught by Ludwig for the benefit of allowing all participants of a conference to input and share all of the resources used to communicate information in the conference (such as a whiteboard).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Ayatsuka (US 7,188,139 B1).

Regarding claim 1, Ludwig teaches a method for exchanging information in a shared interactive environment (abstract) comprising:

a first live video image and a second live video image (figure 40 element 203 shows multiple live video images)

Ludwig does not teach selecting a first remote physical device in a first live video image wherein the first remote physical device has information associated with it;

causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information by interacting with the first live video image and the second live video image,

querying the second remote physical device to determine if it can receive the information from the first remote physical device, and

transferring the information from the first remote physical device to the second remote physical device;

wherein at least one of the first remote physical device and the second physical device has a statically or dynamically defined hotspot in the first live video image and or the second live video image;

wherein the first remote physical device and the second remote physical device are part of the shared interactive environment; and

wherein the first remote physical device and the second remote physical device are different remote physical devices.

Ayatsuka teaches a method of remotely controlling devices that includes selecting a first remote (col. 14 ll. 43-47) physical device (fig. 15 projector 50A) in a first live video image wherein the first remote physical device has information associated with it (fig. 15 slide A);

causing the information to be transferred to a second physical device (fig. 15 projector 50B) in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information by interacting with the first live video image and the second live video image (hyper-drag as defined in fig. 2, col. 21 ll. 7-17 and fig. 16. A user may drag a representation of a transparency/slide from projector A to projector B because the two are connected through a 2-way (i.e. information can be sent or retrieved) path between the computer and each projector),

querying the second remote physical device to determine if it can receive the information from the first remote physical device (col. 21 ll. 1-4), and

transferring the information from the first remote physical device to the second remote physical device (col. 21 ll. 7-11);

wherein at least one of the first remote physical device and the second physical device has a statically or dynamically defined hotspot in the first live video image and or the second live video image (col. 21 ll. 11-14, see fig. 2 for implementation of hyperdrag requiring a representation of a digital object/hotspot);

wherein the first remote physical device and the second remote physical device are part of the shared interactive environment (both of the projectors are part of

the network of linked devices and are part of a live video view); and wherein the first remote physical device and the second remote physical device are different remote physical devices (projectors A and B are two separate devices). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote control capabilities taught by Ayatsuka in the shared interactive environment taught by Ludwig for the benefit of allowing users to operate various devices in an easy, intuitive, and integrated way (col. 6 ll. 24-28).

Regarding claim 2, when read in light of claim 1, Ayatsuka further teaches the manipulation is accomplished by dragging the representation from the first physical device and dropping the representation on the second physical device (see definition of hyperdrag col. 4 ll. 52-62).

Regarding claim 3, when read in light of claim 1, limitation "changes to the physical devices are visible to all participants in the shared interactive environment" is inherent. If all participants in the videoconference have the capabilities disclosed in Ludwig in view of Ayatsuka, all participants would have the ability to focus on any physical device and obtain current associated information, which would reflect any changes.

Regarding claim 4, when read in light of claim 1, Ayatsuka further teaches a physical device can include a display (fig. 17), a projector (fig. 15). In regards to limitation "a physical device can include a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer", Ayatsuka further discloses in 10 ll. 33-38 that a computer may link to and control any object it sees with a network address (col. 7 ll. 25). It is well known in the art that printers, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 5, when read in light of claim 1, Ludwig further teaches annotating at least one of the first live video image and the second live video image (fig 2b, col. 6 ll. 57-61. Updates/annotations are made to the image in real time).

Regarding claim 9, when read in light of claim 1, Ayatsuka further teaches at least one of the first physical device and the second physical device has associated with it a pop-up control panel through which a user can configure and control it (col. 10 ll. 49-64).

2. Claims 10-13, 16-17, and 37-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Ayatsuka (US 7,188,139 B1), and further in view of Nelson et al (US 2004/0236830).

Regarding claim 10, Ludwig teaches a method for exchanging information in a shared interactive environment (abstract), comprising:

a first live video image and a second live video image (figure 40 element 203 shows multiple live video images).

Ludwig does not teach selecting a first object wherein the first object is one of: 1) a physical device in a first live video image and 2) an icon on a computing device;

causing information associated with the first object to be transferred to a second object wherein the second object is the other of 1) the physical device in a first live video image; and 2) the icon on the computing device;

annotating the first live image;

automatically transferring the annotation to the physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image;

displaying the annotation on the physical device such that the annotation can be viewed at the remote location;

wherein the first physical device has a dynamically defined hotpot in the first live video;

wherein the transfer is brought about by manipulating a visual representation of the information;

wherein the manipulation includes interacting with the first object and the second object; and

wherein the physical device is part of the shared interactive environment.

Ayatsuka teaches a method of remotely controlling devices that includes selecting a first object wherein the first object is one of 1) a physical device at a remote location shown in a first live video image, and 2) an icon on a computing device (fig. 15 slide. Although the slide icon is not shown, it is understood from the discussion in col. 21 ll. 7-17 and col. 4 ll. 52-62) in a first live video image wherein the first remote physical device has information associated with it (fig. 15 slide A);

causing information associated with the first object to be transferred to a second object wherein the second object is the other one of 1) the physical device at the remote location shown in a first live video image (fig. 15 projector 50B) and 2) the icon on the computing device;

wherein at the first physical device has a dynamically defined hotspot in the first live video image (col. 21 ll. 11-14, see fig. 2 for implementation of hyperdrag requiring a representation of a digital object/hotspot);

wherein the transfer is brought about by manipulating a visual representation of the information in the first live video image by interacting with the first live video image and the second live video image and the manipulation includes interacting with the first object in the first live video image and the second object (hyper-drag as defined in fig. 2, col. 21 ll. 7-17 and fig. 16. A user may drag a

representation of a transparency/slide from the computer to projector B because the two are connected through a 2-way path);

wherein the first remote physical device and the second remote physical device are part of the shared interactive environment (both of the projectors are part of the network of linked devices and are part of a live video view). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote control capabilities taught by Ayatsuka in the shared interactive environment taught by Ludwig for the benefit of allowing users to operate various devices in an easy, intuitive, and integrated way (col. 6 ll. 24-28).

Regarding limitations "annotating the first live image; automatically transferring the annotation to the physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image; displaying the annotation on the physical device such that the annotation can be viewed at the remote location", Nelson et al teaches participants of a conference may use annotation software installed on an electronic device to annotate a live view of a physical device (figure 8 display screen 216). The annotation will appear to other conference participants and will be projected onto display 216 (pg. 8 sect. 0067 and pg.9 sect 0068). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote annotation capabilities disclosed in Nelson in the videoconferencing system taught by Ludwig for the benefit of allowing all participants of a conference to

input and share all of the resources used to communicate information in the conference (such as a whiteboard).

Regarding claim 11, when read in light of claim 10, Ayatsuka further teaches the manipulation is accomplished by dragging the representation from the first object and dropping the representation on the second object (see definition of hyperdrag col. 4 ll. 52-62).

Regarding claim 12, when read in light of claim 10, limitation "changes to the physical device are visible to all participants in the shared interactive environment" is inherent. If all participants in the videoconference have the capabilities disclosed in Ludwig in view of Ayatsuka and Nelson, all participants would have the ability to focus on any physical device and obtain current associated information, which would reflect any changes.

Regarding claim 13, when read in light of claim 10, Ayatsuka further teaches a physical device can include a display (fig. 17), a projector (fig. 15). In regards to limitation "a physical device can include a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer", Ayatsuka further discloses in 10 ll. 33-38 that a computer may link to and control any object it sees with a network address (col. 7 ll. 25). It is well known in the art that

printers, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 16, when read in light of claim 10, Ayatsuka further teaches the information can include a digital file (col. 9 ll. 21-24), a sound (col. 9 ll. 36-39), and an audio/video presentation (col. 9 ll. 40-46).

Regarding claim 17, when read in light of claim 10, Ayatsuka further teaches the physical device has associated with it a pop-up control panel through which a user can configure and control it (col. 10 ll. 49-64).

Regarding claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer readable memory embodying the method described in claim 10 is taught by Ludwig in view of Ayatsuka and Nelson (see analysis of claim 10).

Regarding claim 38, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer readable memory embodying the method described in claim 11 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 11).

Regarding claim 39, when read in light of claim 37, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 12 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 12).

Regarding claim 40, when read in light of claim 37, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 13 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 13).

Regarding claim 41, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 14 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 14).

Regarding claim 42, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the

method described in claim 15 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 15).

Regarding claim 43, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 10 with the additional limitation of claim 7 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claims 10 and 7).

Regarding claim 44, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 16 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 16).

Regarding claim 45, when read in light of claim 37, Ludwig, Ayatsuka, and Nelson and all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 17 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 17).

Regarding claim 46 Ludwig, Ayatsuka, and Nelson all implement their inventions in hardware, and therefore teach a system with means for carrying out the method described in claim 1 is taught by Ludwig in view of Ayatsuka, and Nelson (see analysis of claim 1).

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Ayatsuka (US 7,188,139 B1), and further in view of Nelson et al (US 2004/0236830).

Regarding claim 6, when read in light of claim 5, Ludwig in view of Ayatsuka teaches the method of claim 5.

Ludwig in view of Ayatsuka does not teach automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

Nelson et al teaches participants of a conference may use annotation software installed on an electronic device to annotate a live view of a physical device (figure 8 display screen 216). The annotation will appear to other conference participants and will be projected onto display 216 (pg. 8 sect. 0067 and pg.9 sect 0068). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote annotation capabilities disclosed in Nelson in the videoconferencing system taught by Ludwig for the benefit of allowing all participants of a conference to input and share all of the

resources used to communicate information in the conference (such as a whiteboard).

Regarding claim 8, Ludwig in view of Ayatsuka further teaches the information can include a digital file (col. 9 ll. 21-24), a sound (col. 9 ll. 36-39), and an audio/video presentation (col. 9 ll. 40-46).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Ayatsuka (US 7,188,139 B1), and further in view of Emens et al (US 6,463,343 B1).

Regarding claim 7, when read in light of claim 1, Ludwig in view of Ayatsuka teaches the method of claim 1.

Ludwig in view of Ayatsuka does not teach that the first live video image and the second live video image are the same.

Limitation “the first live video image and the second live video image are the same”, in light of claim 1 limitation ”selecting a first physical device in a first live video image …;

causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information” is taught by Emens column 1 lines 57-60 and figure 2c, in which a user can select a device to control amongst a plurality of

devices in a single live image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Emen's teaching of being able to select a device to remotely control from a plurality of devices in a single live image with the invention taught by Ludwig in view of Ayatsuka. This combination of inventive ideas would enable videoconference participants to remotely control devices in a room without adjusting the camera angle to zoom in on each device.

9. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Nelson et al (US 2004/0236830).

Regarding claim 18, Ludwig teaches a method for annotating a live video image wherein the annotation is visible to at least one participant in a shared interactive environment (fig 2b, col. 6 ll. 57-61. Updates/annotations are made to the image in real time).

Ludwig does not teach annotating the live video image, wherein the live video image shows a location including one or more physical devices at the location; automatically transferring the annotation to one of the physical devices at the location shown in the live video image if the annotation is at least partially drawn over the physical device as it appears in a live video image; and displaying the annotation on the physical device such that the annotation can be viewed at the location.

Nelson et al teaches participants of a conference may use annotation software installed on an electronic device to annotate a live view of a physical device (figure 8 display screen 216). The annotation will appear to other conference participants and will be projected onto display 216 (pg. 8 sect. 0067 and pg.9 sect 0068). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote annotation capabilities disclosed in Nelson in the videoconferencing system taught by Ludwig for the benefit of allowing all participants of a conference to input and share all of the resources used to communicate information in the conference (such as a whiteboard).

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Regarding claim 21, when read in light of claim 18, Ludwig in view of Nelson teaches the method of claim 18.

Ludwig in view of Nelson does not teach the live video image is one of: a panoramic view and a zoomed view.

Official notice is taken that panning and zooming are well known and widely used tools in video surveillance and conferencing systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include panning and zooming capabilities in the videoconferencing system taught by Ludwig in view of Nelson for the benefit of allowing videoconference participants to have access to view of any resources in the collective rooms, such as whiteboards or illustrative models.

10. Claims 19-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Nelson et al (US 2004/0236830), and further in view of Ayatsuka (US 7,188,139 B1).

Regarding claim 19, when read in light of claim 18, Ludwig in view of Nelson teaches the method of claim 18.

Ludwig in view of Nelson does not teach at least one participant can interact with the physical device.

Ayatsuka teaches a video in which a viewed physical device can be controlled remotely by a participant (col. 8 ll. 23-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Ayatsuka's teaching of using remote camera control and a live video image of a device in order to remotely manipulate/interact with devices that are not physically reachable.

Regarding claim 20, when read in light of claim 18, Ludwig further teaches each of the at least one participants can interact with the shared interactive environment through different computing devices (col. 6 ll. 28-51).

Regarding claim 22, when read in light of claim 18, Ayatsuka further teaches a physical device can include a display (fig. 17), a projector (fig. 15). In

regards to limitation "a physical device can include a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer", Ayatsuka further discloses in 10 ll. 33-38 that a computer may link to and control any object it sees with a network address (col. 7 ll. 25). It is well known in the art that printers, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 23, when read in light of claim 18, Ayatsuka further teaches the physical device has associated with it a pop-up control panel through which a user can configure and control it (col. 10 ll. 49-64).

11. Claims 24, 26-27, 30, 32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1), and further in view of Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Nelson et al (US 2004/0236830)..

Regarding claim 24, Emens teaches a shared interactive environment, comprising:

a camera system to provide a first live view and second live view (col. 3 ll. 8-9, where the first live view and second live view are the same in this instance; col. 5 ll. 15-20 teaches multiple cameras for providing multiple different views, or a

moving camera for providing different views from one camera);

a first graphical user interface (GUI) coupled to the camera system and to present the first live view and the second live view, wherein the views can capture a physical device (abstract);

a device controller to dynamically control the physical device in response to interaction of a first user with the GUI.

Emens does not teach the second live view can be configured to zoom in on a portion of the first live view;

wherein the interaction can including annotating at least one of 1) the first live view; and 2) the second live view (fig. 2e, col. 3 ll. 10-11);

wherein annotations are automatically transferred to the physical device in the live views if the annotation is at least partially drawn over the physical device as it appears in the live video;

a device tracker coupled to the camera system and to dynamically recognize new physical devices; and

wherein the camera system can be mounted on a mobile, robotic platform.

In regards to limitation "wherein the second live view can be configured to zoom in on a portion of the first live view", official notice is taken that zooming is a well known and widely used tool in video surveillance and conferencing systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include panning and zooming capabilities in the interactive environment taught by Emens for the benefit of allowing

videoconference participants to have access to view of any resources in the collective rooms, such as whiteboards or illustrative models.

Ayatsuka teaches a camera connected to a computer that can detect and recognize devices in the camera's view, and allows the viewed device to be controlled by the computer (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the device detection capabilities taught by Ayatsuka in the device control system taught by Emens for the benefit of allowing a user to register devices for control by a computer system without manually entering information for each device.

Burt teaches a robotic camera that detects and tracks a target (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Burt's teaching of a robotic camera that keeps targeted objects in its line of view in the interactive environment taught by Emens in view of Ayatsuka for the benefit of maintaining a view of devices that the user may want to exercise control over. Burt's abstract teaches the application of this concept to automated surveillance in the abstract.

Regarding limitations "wherein the interaction can including annotating at least one of 1) the first live view; and 2) the second live view (fig. 2e, col. 3 ll. 10-11); and wherein annotations are automatically transferred to the physical device in the live views if the annotation is at least partially drawn over the physical device as it appears in the live video" Nelson teaches participants of a conference may use annotation software installed on an electronic device to

annotate a live view of a physical device (figure 8 display screen 216). The annotation will appear to other conference participants and will be projected onto display 216 (pg. 8 sect. 0067 and pg.9 sect 0068). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote annotation capabilities disclosed in Nelson in the videoconferencing system taught by Ludwig for the benefit of allowing all participants of a conference to input and share all of the resources used to communicate information in the conference (such as a whiteboard).

Regarding claim 26, when read in light of claim 24, Emens further teaches the device controller can control the physical device through at least one of: 1) an infrared communication channel; and 2) one or more networks (fig. 1 col. 5 ll. 26-31).

Regarding claim 27, when read in light of claim 24, Emens in view of Ayatsuka and Burt further teaches the device tracker can recognize new physical devices by at least one of: 1) image pattern recognition (Burt pg. 3 col. 2 paragraph 2, fig. 2); 2) radio frequency transmission; and 3) acoustic signal.

Regarding claim 30, when read in light of claim 24, Emens further teaches the GUI is implemented as one or more web pages (col. 2 ll. 60-65).

Regarding claim 32, when read in light of claim 24, Emens further teaches the physical device has a pop-up control panel that can be made apparent to the first user through the first GUI and wherein the pop-up control panel allows the first user to control and configure the physical device (fig. 2e).

Regarding claim 34, when read in light of claim 24, both Emens and Ayatsuka teach software based control schemes for controlling objects and devices. It is inherent that the physical device can be represented by a set of attributes and a set of behaviors, as those are the only ways of representing an object to a computer program.

Regarding claim 35, when read in light of claim 34, Emens in view of Ayatsuka and Burt teach the shared interactive environment of claim 34.

Emens in view of Ayatsuka and Burt does not teach the representation of the physical device is part of a device hierarchy.

Both Emens and Ayatsuka teach software based control schemes for controlling objects and devices. Object oriented programming is an obvious approach to developing such software, as each device has its own attributes and control routines. The concept of classes and inheritance are well known and often used to create programs that support a variety of objects. Official notice is taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use objects and inheritance to implement device

control software for the benefit of optimizing the software and reducing redundancy in the application programming for devices that may share similar functions.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Nelson et al (US 2004/0236830)., and further in view of Andersson (US 2002/0111999 A1).

Regarding claim 25, when read in light of claim 24, Emens in view of Ayatsuka, Burt, and Nelson teaches the interactive environment of claim 24 and suggests implementing device control in a video teleconferencing environment (fig. 5), but does not disclose multiple users having access to the system (i.e. the first GUI allows the first user to interact the physical device; and wherein the interaction of the first user is apparent to a second user via a second GUI).

Andersson teaches a system that allows networked computers to access and control devices connected to any computer on that network, where both host and remote computers can monitor device events (pg. 2 sect. 0019, 0023). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote access and device monitoring capabilities taught by Andersson in the shared interactive environment taught by

Emens in view of Ayatsuka for the benefit of enhancing collaboration and making a more realistic environment for users who may share resources.

13. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Nelson et al (US 2004/0236830)., and further in view of Hildebrandt (US 2004/0070616).

Regarding claim 28, when read in light of claim 24, Emens in view of Ayatsuka, Burt, and Nelson teaches the interactive environment of claim 24, wherein the physical device can be a display (Ayatsuka fig. 5, col. 22 ll. 63-67). Emens in view of Ayatsuka and Burt does not teach the display can include an image stack.

Hildebrandt teaches an archive memory for use with an electronic whiteboard in which images associated with the whiteboard are grouped and saved. These images are stored as a stack, where the oldest image is deleted when a new image is added (see fig. 22 el 524). It would have been obvious to one of ordinary skill in the art at the time the invention was made to store a plurality of images captured from a display for the benefit of allowing a user to continually use a display resource while still being able to access data previously

represented on that display.

14. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Nelson et al (US 2004/0236830)., and Andersson (US 2002/0111999 A1), and further in view of Westfield (US 6,677,979 B1).

Regarding claim 29, when read in light of claim 25, Emens in view of Ayatsuka, Burt, Nelson, and Andersson teaches the shared interactive environment of claim 25.

Emens in view of Ayatsuka, Burt, and Andersson does not teach the first GUI can provide a second live view that is different from the second live view provided by the second GUI.

Ayatsuka suggests one environment in which devices remotely controlled through a camera view could be used is in a teleconference (fig. 5).

Westfield teaches a teleconference environment in which a participant can see 2 views, where the second view can be specified for each participant (abstract, fig 8b, fig 7 and col. 2 ll. 46-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the multiple views of an environment taught by Westfield in the interactive environment taught

by Emens in view of Ayatsuka, Burt, and Andersson for the benefit of more closely mimicking human vision by providing both wide angle and focused views (col. 1 ll. 43-54).

15. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Nelson et al (US 2004/0236830), and further in view of Westfield (US 6,677,979 B1).

Regarding claim 31, when read in light of claim 24, Emens in view of Ayatsuka Burt, and Nelson teaches the shared interactive environment of claim 24.

Emens in view of Ayatsuka and Burt does not teach the first user can select the second live view by drawing a diagonal in the first live view. Westfield teaches a teleconference environment in which a participant can see 2 views, where the second view can be specified by a participant dragging a rectangle across the image in the first view. (abstract, fig 8b, fig 7 and col. 6 ll. 38-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the zoomed view of an environment taught by Westfield in the interactive environment taught by Emens in view of Ayatsuka,

Burt, and Andersson for the benefit of more closely mimicking human vision by providing both wide angle and focused views (col. 1 ll. 43-54).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASMINE STOKELY-COLLINS whose telephone number is (571) 270-3459. The examiner can normally be reached on M-F 9:30-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jasmine Stokely-Collins/
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